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January 24, 2006

**SUBMITTED ELECTRONICALLY**

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Shared Use of the 2496-2500 MHz Band between Industrial, Scientific and Medical ("ISM") Devices and Broadband Radio Service ("BRS"); IB Docket No. 02-364 and ET Docket No. 00-258; NOTICE OF ORAL EX PARTE COMMUNICATION of the Association of Home Appliance Manufacturers ("AHAM")

Dear Ms. Dortch:

Pursuant to the provisions of Section 1.1206 of the rules of the Federal Communications Commission ("FCC" or "Commission"), AHAM submits this notification of *ex parte* communication. In particular, on January 23, 2006, David Calabrese, Vice President, Government Relations of AHAM and the undersigned counsel met with Andrew Long, Acting Legal Advisor, Office of Commissioner Deborah Taylor Tate.

The purpose of the meeting was to brief Mr. Long on the background and issues of concern to AHAM in the above referenced proceeding. The attached presentation was circulated at the meeting and discussed.

If there are questions regarding the foregoing or the attached, please contact the undersigned.

Very truly yours,

*/s/ Russell H. Fox*

Russell H. Fox

Attachments

cc: Andrew Long (electronically with attachments)


# Association of Home Appliance Manufacturers

**Meeting with FCC Staff**

***January 23, 2006***

**FCC Docket Nos. 02-364 and 00-258**

# Background

- **AHAM is a trade association representing the major, portable and floor care appliance industry.**
  - AHAM represents 163 companies.
  - Major Appliance Division represents manufacturers of microwave ovens.

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# Background - FCC Proceeding

- **In this proceeding, the FCC added a terrestrial fixed and mobile service allocation to the band 2495-2500 MHz.**
- **The FCC's action allows Broadband Radio Service ("BRS") licensees (who are displaced from the band 2150-2160/2162 MHz) in the band 2496-2500 MHz.**
- **However, the new home for BRS licensees is part of the band 2400-2500 MHz, allocated internationally for Industrial, Scientific and Medical ("ISM") devices, including microwave ovens.**

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# Petitions for Reconsideration

- **The Wireless Communications Association ("WCA"), Sprint and Nextel (now Sprint Nextel) ask the FCC to change the rules governing the ISM band to accommodate a perceived --** *but not demonstrated* **-- risk of interference.**

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# Petitions for Reconsideration (cont'd)

- **To address this perceived interference, the BRS Parties first suggested that the FCC impose the Part 15 *in-band* emission limits to new ISM devices.**
  - This would have imposed, for the first time and contrary to international procedures, in-band emission limits in the ISM band.
- **Based on AHAM's demonstration that the imposition of the Part 15 limits was untenable, the BRS Parties now propose the imposition of Part 18 out-of-band emission limits in the shared 2496-2500 MHz band.**

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# The BRS Parties' Position is Flawed

- **This is a solution without a problem.**
- **No demonstrated harm to BRS devices.**
  - While AHAM has acknowledged potential interference to wireless devices, AHAM's assessment was directed at low power Part 15 devices.
    - AHAM's principal purpose in that proceeding is the same as it is here -- to remind the FCC that in the 2400-2500 MHz bands, there is no protection from ISM devices.

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# The BRS Parties' Position is Flawed (cont'd)

- **The BRS Parties' "solution" can be viewed in one of two ways:**
  - Either as an in-band limit (this time using a Part 18 test rather than a Part 15 test) for the 2496-2500 MHz band; or
  - As an abbreviation of the ISM band to 2400-2496, with application of the current Part 18 out-of-band limits at the new band edge.
- **Both the imposition of in-band limits and the abbreviation of the ISM bands are inconsistent with international treaty and current technology.**

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# In-Band Limits

- **The suggestion to impose in-band limits is based on the erroneous contention that ISM devices can operate with unlimited power today.**
  - However, ISM devices cannot meet out-of-band limits and operate with unlimited power.
- **The imposition of in-band limits is contrary to international precedent.**
  - Measurement techniques for ISM band emissions are internationally established by CISPR; CISPR measures only out-of-band emissions.
  - While WRC 03 may have recommended that studies of in-band limits be conducted, there has been no action on that proposal.

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# In-Band Limits (cont'd)

- **In-band limits would be contrary to domestic regulation.**
  - The only in-band limits applicable today are those imposed by FDA.
    - FDA measurements are conducted differently than FCC in band limits.
    - FDA limit is ***4 million*** times less stringent than Part 15 limits.
- **Imposition of an in-band limit would potentially require production of devices only for United States market.**
  - As AHAM demonstrated, some of the changes might include:
    - Elimination of holes in glass doors.
    - Redesign of seals around doors.
    - Elimination of air intake and exhaust holes, potentially causing water vapor accumulation.
    - Reduction of output power
    - Redesign of welding system.
  - The enormous cost to redesign devices for the United States market only could not be spread on a world-wide basis.
  - Manufacturing devices for the United States market only might drive the cost of microwave ovens beyond what consumers would accept.

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# The Abbreviation of the Band Would Contradict International Treaty Obligations

- **The 2400-2500 MHz band -- with CISPR recognized emission measurement techniques occurring only above 2500 (and below 2400 MHz) -- is allocated internationally by the ITU for ISM operations.**
- **Note 5.150 of the Table of Frequency Allocations makes it clear that services operating in this entire band *must* accept harmful interference caused by ISM devices.**
- **By abbreviating the band, the BRS Parties would impose an obligation different from those imposed by the Radio Regulations.**

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# FCC Precedent -- ISM Devices

- **In addition to violating international obligations, adoption of the BRS Parties' position would be contrary to FCC precedent**
- **As recently as 2002, the FCC adopted regulations designed to promote a world-wide market for ISM devices.**
- **The BRS Parties would frustrate that goal.**

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# NTIA Study

- **BRS Parties use NTIA study to assert that it is technically feasible for microwave ovens to adhere to an in-band limit at 2496-2500 MHz.**
  - Even if the BRS Parties' position were not inconsistent with international treaty and practice, it is based on flawed data wrongly interpreted

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# NTIA Study (cont'd)

- **The BRS Parties' latest proposal is based on data developed in an 11 year old NTIA study.**
- **NTIA Study was never designed to measure the level of acceptable emissions.**
- **NTIA used ovens tested over a decade ago -- likely with lower power.**
- **NTIA studied peak emissions, FCC Part 18 limits are based on average emissions.**
- **Other design features of the NTIA Study are questionable (size and shape of container, failure to use real-life loads, use of "Stepped Spectrum Measurement").**

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# NTIA Study (cont'd)

- **Even if study design was acceptable, WCA interpreted the data in the** *exactly opposite* **way as intended.**
  - Ovens that comply with Part 18 and WCA proposed test are shown as non-compliant and *vice versa*.
  - WCA assumed higher values were more desirable; they are not.
  - Therefore, WCA conclusion is directly contrary to what it should be.

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# NTIA Study (cont'd)

- **Motorola's interpretation of the NTIA study is similarly flawed.**
  - Its use of a shortcut to interpret Section 18.305 of the rules leads to an overstatement of the permitted power levels between 501 and 2276 watts.
    - That overstatement allows Motorola to wrongly conclude that microwave ovens would meet the test it proposes for the band 2496-2500 MHz.
  - Motorola also does not disagree with AHAM's demonstration that the use of the NTIA results in the first instanced is flawed.

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# Other Issues

- **There is an embedded base of 115 million ovens in the United States today, which will be in operation for 9-14 years.**
  - If interference will be as WCA and Sprint Nextel suggest, how will BRS operators avoid that interference for so long?
- **Microwave ovens are used only approximately 1% of the day.**
  - Is redesign of a valued consumer product necessary to address a problem that *might* occur only 1% of the time?

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# Other Issues (cont'd)

- **Whatever interference *might* occur will only be present when the two devices are nearby and within line-of-sight.**
  - WCA and Sprint Nextel do not demonstrate how often this will occur during the average 1% of the day when microwave ovens are in use.
- **Because there are 115 million microwave ovens in use and virtually no BRS devices in use, why shouldn't BRS manufacturers design devices that protect against ISM operations (as required by international treaty), rather than requiring redesign of microwave ovens to protect a service that does not exist today?**

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